

Serial No.: 09/721,326

- 24 -

Art Unit: 2616

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REMARKS

Claims 2, 4-7, 10, 13-16, 18-22, 24, 27-31, 35, 40-47, 49-61, 63-86, 88, 89, 102, 103, 108, 117-120, 122-137, 143-145 and 148-152 were previously pending in this application. By this amendment, Applicant is canceling claim 134 without prejudice or disclaimer. Claims 15, 61, 67, 102, 103, 125-128, 143 and 151 are amended herein. Claims 102, 143 and 151 have been amended to correct minor typographical errors and not for any substantial reason relating to patentability. New claim 153 has been added. As a result claims 2, 4-7, 10, 13-16, 18-22, 24, 27-31, 35, 40-47, 49-61, 63-86, 88, 89, 102, 103, 108, 117-120, 122-133, 135-137, 143-145 and 148-153 are pending for examination with claims 2, 15, 30, 61, 68, 103, 127, 128 and 151 being independent claims. No new matter has been added. The application as presented is believed to be in condition for allowance.

Correspondence Address

Applicant notes that this Office Action was mailed to Applicant's former representatives, namely Wolf, Greenfield and Sacks, P.C. Applicant has enclosed a copy of the Revocation and New Power of Attorney that was filed with the Patent and Trademark Office on November 10, 2003, identifying the firm of Lowrie, Lando & Anastasi, LLP as Applicant's representative of record. Applicant respectfully requests that communications be mailed to the address associated with Applicant's Representative's customer number 37462.

Allowable Subject Matter

Applicant notes with appreciation that claims 2, 4-7, 10, 13, 14, 30, 31, 35, 40-47, 49-57, 68-86, 88, 89, 122-124, 129-133, 135-137, 148, 149 and 152 are allowed and that claims 61, 103 and 127 have been identified as containing allowable subject matter.

The Examiner states in the Office Action that claims 61, 103 and 127 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Accordingly, Applicant has rewritten claims 61, 103 and 127 in independent form, including all the limitations from any claims from which claims 61, 103 and 127 previously depended. In addition, Applicant has amended claims 67, 125 and 126 to depend from claim 127. As a result of these amendments, it is believed that claims 61, 67, 103 and 125-

Serial No.: 09/721,326

- 25 -

Art Unit: 2616

127 are now in condition for allowance and a notice to that effect is respectfully requested.

Rejections Under 35 U.S.C. §102

Claims 151, 102, 117, 119, 120, 144 and 145 stand under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,428,544 to Shyu (hereinafter Shyu). Applicant respectfully traverses this rejection.

Applicant's independent claim 151 recites a vehicular communication network comprising "a plurality of passenger vehicles located on vehicular pathways and being adapted to transmit and receive signals to and from one another; and a pathway station adapted to monitor the plurality of passenger vehicles and signals along the vehicular pathways." Contrary to the assertions in the Office Action, Shyu does not disclose or suggest a pathway station that monitors the plurality of passenger vehicles and signals along the vehicular pathways, as is recited in Applicant's claim.

Shyu is directed to a system for transferring information among vehicles and for assisting navigating the vehicles. Shyu discloses that vehicles are equipped with an apparatus to record traffic information such as the driving speed and the path, to send the information to other passing vehicles through a transceiver and to receive the information from those passing vehicles. Shyu notes that although the system does not require a central computer, satellite or roadside posts, in practice traffic information can also be received through a receiving station, similar to such a central computer system and transceiver posts. The Examiner asserts that the receiving station disclosed by Shyu is a "pathway station" as recited in Applicant's claim 151. However, Shyu does not disclose or suggest that the receiving station is "adapted to monitor the plurality of passenger vehicles and signals along the vehicular pathways," as is recited in Applicant's claim. Shyu discloses that the receiving station can receive traffic information from the vehicles, process the information and provide navigation data to those vehicles equipped with receivers. However, there is no mention of the receiving station monitoring the vehicles or monitoring the signals along the pathways, as is recited in Applicant's claim. Therefore, because Shyu fails to disclose at least one limitation recited in Applicant's claim 151, Shyu cannot anticipate claim 151. Accordingly, withdrawal of the rejection of claim 151 is respectfully requested.

Serial No.: 09/721,326

- 26 -

Art Unit: 2616

Claims 102, 117, 119, 120, 144 and 145 depend from claim 151 and are therefore allowable for at least the same reasons as discussed with respect to claim 151. In addition, with regard to claim 144 which recites "wherein the pathway station is adapted to monitor a position and velocity of the plurality of passenger vehicles along the vehicular pathways" (emphasis added), the Examiner points to Shyu's Figure 5, block 110 and column 1, lines 58-62. However, this disclosure in Shyu is of an apparatus located on the vehicle itself, and not part of a pathway station. Shyu does not disclose or suggest that the receiving station is capable of monitoring a position and velocity of the plurality of passenger vehicles along the vehicular pathways." Therefore, for this additional reason, claim 144 is not anticipated by Shyu. In view of the foregoing, withdrawal of the rejection of dependent claims 102, 117, 119, 102, 144 and 145 is respectfully requested.

Rejections Under 35 U.S.C. §103

Claim 118 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Shyu. Applicant respectfully traverses this rejection.

Claim 118 depends from claim 151. As discussed above, Shyu does not disclose or suggest a pathway station that monitors the plurality of passenger vehicles and signals along the vehicular pathways, as is recited in Applicant's independent claim 151. Thus, Shyu does not render Applicant's claim 151 unpatentable. Therefore, claim 118, which depends from claim 151, also patentably distinguishes over Shyu for at least the same reasons as does claim 151. Accordingly, withdrawal of the rejection of claim 118 is respectfully requested.

Claim 108 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Shyu in view of Alanyali et al. ('On Simple Algorithms for Dynamic Load Balancing'). Applicant respectfully traverses this rejection.

Claim 108 depends from claim 151. As discussed above, Shyu does not disclose or suggest a pathway station that monitors the plurality of passenger vehicles and signals along the vehicular pathways, as is recited in Applicant's independent claim 151. Applicant does not concede that the proposed combination of Shyu and Alanyali is proper and reserves the right to traverse this combination in the future. However, Alanyali fails to cure the deficiencies of Shyu because Alanyali also fails to disclose or suggest a pathway station that monitors the plurality of

Serial No.: 09/721,326

- 27 -

Art Unit: 2616

passenger vehicles and signals along the vehicular pathways. Therefore, even if one were to combine Shyu and Alanyali as proposed in the Office Action, the combination fails to disclose or suggest at least one limitation recited in Applicant's claim 151 and therefore cannot render claim 151 unpatentable. Claim 108, which depends from claim 151, patentably distinguishes over the references for at least the same reasons as does claim 151. Accordingly, withdrawal of the rejection of claim 108 is respectfully requested.

Claim 143 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Shyu in view of Newton's Dictionary definition for "FDMA." Applicant respectfully traverses this rejection.

Claim 143 depends from claim 151. Applicant does not concede the properness of applying FDMA, as defined in Newton's Dictionary, to Shyu, and reserves the right to contest this modification of Shyu in the future. However, as discussed above, Shyu does not disclose or suggest a pathway station that monitors the plurality of passenger vehicles and signals along the vehicular pathways, as is recited in Applicant's independent claim 151. The application of FDMA to Shyu does not change this fact. Therefore, even if one were to modify Shyu as proposed in the Office Action, Shyu still fails to disclose or suggest at least one limitation recited in Applicant's claim 151 and therefore cannot render claim 151 unpatentable. Accordingly, Shyu also cannot render unpatentable Applicant's claim 143 which depends from claim 151. In addition, as discussed below, Applicant asserts that definitions of FDMA in Newton's Dictionary does not disclose Applicant's claimed limitation, namely, "wherein the first transmitter/receiver unit is adapted to re-transmit the first information signal at a first frequency, and wherein the second transmitter/receiver unit is adapted to re-transmit at least the portion of the first information signal at a second frequency." For at least these reasons, claim 143 is patentable over the art of record and withdrawal of the rejection of claim 143 is respectfully requested.

Claims 15, 16, 18, 19, 21, 22, 24, 27-29, 58-60, 63-67, 125 and 126 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Shyu in view of Farmer et al. (U.S. Patent No. 6,085,151). Applicant has amended independent claim 15 to further distinguish over the art of record and respectfully traverses this rejection.

Applicant has amended claim 15 to incorporate the subject previously recited in dependent claim 134. As a result, claim 134 has been canceled. Claim 134 stood rejected under

Serial No.: 09/721,326

- 28 -

Art Unit: 2616

35 U.S.C. §103(a) as being unpatentable over Shyu and Farmer et al. and further in view of Newton's Dictionary definition of "FDMA." Applicant will therefore address this rejection as it now applied to claim 15.

Independent claim 15, as amended, recites a system that provides information to and from a second passenger vehicle, the system comprising "a directional multibeam antenna, coupled to the first transmitter/receiver unit, that re-transmits the information signal in a plurality of directions, at least one of the plurality of directions being along the pathway...wherein the multibeam antenna is adapted to transmit the information signal in a first direction at a first frequency and to transmit the information signal in a second direction at a second frequency."

Applicant does not concede that the combination of Shyu and Farmer proposed in the Office Action is proper, and reserves the right to argue against this combination in the future. However, even if one were to combine Shyu and Farmer as proposed in the Office Action, the combination fails to disclose or suggest at least one limitation in Applicant's claim independent 15, as amended. In addition, Applicant does not concede that the proposed modification of the combination of Shyu and Farmer in view of the definition of FDMA from Newton's Telecom Dictionary is proper and reserves the right to traverse this modification in the future. However, even if one does apply FDMA, as defined in Newton's Telecom Dictionary, to the system resulting from the proposed combination of Shyu and Farmer, one does not arrive at Applicant's claimed invention.

Frequency Division Multiple Access (FDMA) is defined as a method of allocating a discrete amount of frequency bandwidth to each user (of a cellular telephone network) to permit many simultaneous conversations. As stated on page 479 of Newton's Telecom Dictionary, cited by the Examiner, FDMA refers to assigning individual frequency slots and reusing these frequency slots throughout the [cellular] system. However, each of these "slots" are within a particular frequency band that may be transmitted by a main beam of an antenna. There is no teaching or suggestion anywhere in the references of record that a multibeam antenna may be used to transmit signals in different directions at different frequencies. By contrast, FDMA as typically used in cellular systems, allocates small portions of a signal ("slots") of a signal with one frequency band that is typically transmitted by, for example, an omni-directional antenna on a cellular tower. It does not refer to discretely transmitting one signal in one direction at one

Serial No.: 09/721,326

- 29 -

Art Unit: 2616

frequency and another signal in another direction at another frequency, and using a multibeam antenna to do so. Thus, even in combination, the references of record fail to disclose or suggest at least one limitation recited in Applicant's claim 15, as amended. Accordingly, withdrawal of the rejection of independent claim 15 is respectfully requested.

Applicant has amended dependent claims 67, 125 and 126 to depend from claim 127 (indicated to contain allowable subject matter). Therefore, the rejection is overcome with respect to these claims. Accordingly, withdrawal of the rejection of claims 67, 125 and 126 is respectfully requested.

Each of claims 16, 18, 19, 21, 22, 24, 27-29, 58-60 and 63-66 depends from independent claim 15 and is therefore allowable for at least the same reasons as discussed with respect to claim 15. In addition, claim 29 recites "at least one pathway station that monitors the passenger vehicles along the pathway." As discussed above in reference to claim 151, Applicant asserts that Shyu does not disclose or suggest a pathway station that monitors the passenger vehicles along the pathway. Farmer also fails to disclose or suggest such a pathway station. Therefore, for this additional reason, claim 29 distinguishes over the references of record. In view of the foregoing, withdrawal of the rejection of claims 16, 18, 19, 21, 22, 24, 27-29, 58-60 and 63-66 is respectfully requested.

Claim 20 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Shyu and Farmer and further in view of Alewine et al. (U.S. Patent No. 6,150,961). Applicant respectfully traverses this rejection. Claim 20 depends from claim 15. As discussed above, Shyu and Farmer, whether taken alone or in combination, fail to disclose at least one limitation recited in claim 15. Alewine fails to cure the deficiencies of Shyu and Farmer (modified to apply the principles of FDMA defined in Newton's Telecom Dictionary) because Alewine also does not disclose or suggest a system including a multibeam antenna "wherein the multibeam antenna is adapted to transmit the information signal in a first direction at a first frequency and to transmit the information signal in a second direction at a second frequency," as is recited in Applicant's claim 15, as amended. Therefore, claim 15 patentable distinguishes over the art of record. Claim 20, which depends from claim 15, is patentable over the art of record for at least the same reasons as is claim 15. Accordingly, withdrawal of the rejection of claim 20 is respectfully requested.

Serial No.: 09/721,326

- 30 -

Art Unit: 2616

Claim 67 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Shyu and Farmer et al. and further in view of Alanyali et al. Applicant has amended claim 67 to depend from claim 127 which was identified as containing allowable subject matter. Accordingly, this amendment overcomes the rejection of claim 67 and withdrawal of this rejection is respectfully requested.

Claims 128 and 134 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Shyu and Farmer et al. and further in view of Newton's Dictionary definition of "FDMA." Applicant respectfully traverses this rejection.

As discussed above, claim 134 has been canceled and its subject matter incorporated into claim 15. Therefore the rejection of claim 134 is moot and has been addressed as it now applied to claim 15.

Claim 128 has been rewritten into independent form, including all the limitations previously recited in claim 15, from which claim 128 previously depended. Claim 128 recites "a directional multibeam antenna, coupled to the first transmitter/receiver unit, that re-transmits the information signal in a plurality of directions, at least one of the plurality of directions being along the pathway...wherein the first transmitter/receiver unit is adapted to re-transmit the information signal at a first frequency, and wherein the additional transmitter/receiver unit is adapted to re-transmit the information signal at a second frequency." As discussed above in reference to claim 15, FDMA, as defined in Newton's Telecom Dictionary referred to by the Examiner, refers to the allocation of small portions (frequency "slots" or channels) of a signal having a certain frequency bandwidth among multiple users to allow many simultaneous conversations. By contrast, Applicant's claim 128 refers to a first unit transmitting an information signal at a first frequency and a second unit retransmitting the same information at a second, different frequency. This is not shown or suggested by the references of record. Therefore, for at least this reason, claim 128 is patentable over the art of record and withdrawal of the rejection of claim 128 is respectfully requested.

Serial No.: 09/721,326

- 31 -

Art Unit: 2616

Newly Added Claim

Applicant has added new claim 153 to further define Applicant's contribution to the art. Claim 153 is supported by the specification as filed, and no new matter has been added. New claim 153 depends from independent claim 151.

New claim 153 recites "a pathway control station, coupled to the pathway station and to an existing communications network, that controls communication between the pathway station and the existing communication network; wherein the pathway control station, the pathway station and the passenger vehicles form an information network, and wherein the pathway control station includes a storage medium to store data relating to one of the passenger vehicles when the one passenger vehicle becomes disconnected from the information network so that the information can be provided when the one passenger vehicle is reconnected to the information network." A similar limitation is also recited in claim 127, which was indicated to contain allowable subject matter. The references of record do not disclose or suggest such a pathway control station. Therefore, for at least this reason, claim 153 is believed to be in condition for allowance.

CONCLUSION

In view of the foregoing amendments and remarks, reconsideration is respectfully requested. This application should now be in condition for allowance; a notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

Serial No.: 09/721,326

- 32 -

Art Unit: 2616

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 50/2762, Ref. No. A0602-7002

Respectfully submitted,
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